

IN THE CLAIMS:

1. (currently amended) A method for merging print jobs being sent to a single imaging device ~~de-spooler job joining~~, the method comprising:

at a client device, despooling a plurality of print jobs being sent to a single imaging device;

performing a merger performance analysis;

determining that the economy of joining the plurality of print jobs exceeds the job joining overhead;

in response to determining that the plurality of print jobs can be economically joined, joining the plurality of print jobs into a single joined print job for rendering at the single imaging device; and,

rendering the joined print job as a single continuous print job.

2. (currently amended) The method of claim 1 further comprising:

receiving the plurality of print jobs at ~~[[an]]~~ the single imaging device; and,

wherein joining the plurality of print jobs into a single joined print job includes joining the plurality of print jobs at the imaging device.

3. (currently amended) The method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes joining the plurality of print jobs at the client device; and,
the method further comprising:

sending the joined print job to [[an]] the single imaging device.

4. (original) The method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:
concatenating the plurality of print jobs; and,
creating a single spool file with multiple raster image processes (RIPs).

5. (original) The method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:
generating a RIP for each print job, with RIP end/start instructions;
removing the RIP end/start instructions;
concatenating the plurality of RIPs; and,
creating a single spool file with a single RIP.

6. (original) The method of claim 5 wherein generating a RIP for each print job, with RIP end/start instructions, includes generating instructions selected from the group including universal exit language (UEL), printer reset, @ PJI header sequence, and @ PJI EOJ.

7. (original) The method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:
converting each print job into an image format file; and,
merging the image format files into a single RIP.

8. (original) The method of claim 7 wherein converting each print job into an image format file includes converting each print job into an image format file selected from the group including TIFF, JPEG, Windows bitmap, and PDF format files.

9. (original) The method of claim 1 further comprising:

prior to joining the plurality of print jobs, accepts static control selection commands; and,

wherein joining the plurality of print jobs into a single joined print job includes joining the jobs in response to the selected static controls.

10. (original) The method of claim 9 wherein accepting static control selection commands includes selecting a control from the group including print job format, print job document type, threshold printing instructions, and printing delay instructions.

11. (original) The method of claim 1 further comprising:

accepting dynamic control selection commands;
analyzing dynamic conditions at run-time; and,

wherein joining the plurality of print jobs into a single joined print job includes joining the jobs in response to the dynamic conditions and the selected dynamic controls.

12. (original) The method of claim 11 wherein accepting dynamic control selection commands includes selecting controls from the group including the number of pending print jobs, a merger performance analysis, inter-RIP conflicts analysis, and post-merger inter-RIP conflict resolution.

13. (original) The method of claim 1 wherein joining the plurality of print jobs into a single joined print job includes:
converting each print job into a raster format file specific to an imaging device's rendering engine; and,
merging the raster format files into a single RIP.

14. (currently amended) A system for merging print jobs being sent to a single imaging device ~~de-spooler job joining~~, the system comprising:

a merger unit having an interface to receive a plurality of despooled print jobs, the merger unit performing a merger performance analysis to determine if the economy of joining the plurality of print jobs exceeds the job joining overhead, and in response to determining that the plurality of print jobs can be economically joined, joining the plurality of print jobs into a single joined print job supplied at an interface for rendering at a single imaging device; and,

a ~~[In]] imaging device~~ print controller embedded with the single imaging device having an interface to accept the joined print job and an interface to supply a document rendered as a single continuous print job.

15. (currently amended) The system of claim 14 wherein the merger unit is logically connected with the single imaging device; and,

the system further comprising:

a[[n]] ~~imaging device~~ spooler embedded with the single imaging device having a network-connected interface to receive print jobs and an interface to supply the received print jobs; and,

a[[n]] ~~imaging device~~ de-spooler embedded with the single imaging device having an interface to receive the print jobs from the spooler and an interface to supply despoiled print jobs to the merger unit.

16. (currently amended) The system of claim 14 further comprising:

a client device including:

a spooler with an interface to receive print jobs and an interface to supply the received print jobs;

a de-spooler having an interface to receive the print jobs from the spooler and an interface to supply despoiled print jobs to the merger unit;

wherein the merger unit is logically connected with the client device, the merger unit having a network-connected interface to supply the joined print job to the imaging device print controller; and,

wherein the ~~imaging device~~ print controller embedded with the single imaging device has a network-connected interface to receive the joined print job from the client device merger unit.

17. (original) The system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by concatenating the plurality of print jobs, and creating a single spool file with multiple raster image processes (RIPs).

18. (original) The system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by: generating a RIP for each print job, with RIP end/start instructions; removing the RIP end/start instructions; concatenating the plurality of RIPs; and, creating a single spool file with a single RIP.

19. (original) The system of claim 18 wherein the merger unit generates RIP end/start instructions selected from the group including universal exit language (UEL), printer reset, @ PJL header sequence, and @ PJL EOJ.

20. (original) The system of claim 14 wherein the merger unit joins the plurality of print jobs into a single joined print job by converting each print job into an image format file, and merging the image format files into a single RIP.

21. (original) The system of claim 20 wherein the merger unit converts each print job into an image format file selected from the group including TIFF, JPEG, Windows bitmap, and PDF format files.

22. (original) The system of claim 14 wherein the merger unit has a static condition user interface (UI) for selecting static

controls prior to joining the plurality of print jobs, the merger unit joining the plurality of print jobs into a single joined print job in response to the selected static controls.

23. (original) The system of claim 22 wherein the merger unit is responsive to static controls selected from the group including print job format, print job document type, threshold printing instructions, and printing delay instructions.

24. (original) The system of claim 14 wherein the merger unit has a dynamic condition UI for selecting dynamic controls, the merger unit analyzing dynamic conditions at run-time and joining the plurality of print jobs into a single joined print job in response to the dynamic conditions and the selected dynamic controls.

25. (original) The system of claim 24 wherein the merger unit accepts dynamic controls selected from the group including the number of pending print jobs, a merger performance analysis, inter-RIP conflicts analysis, and post-merger inter-RIP conflict resolution.

26. (currently amended) The system of claim 14 further comprising:

a[[n]] ~~imaging device~~ rendering engine embedded in the single imaging device having an interface to accept the rendered document from the print controller and an interface to supply documents in a format selected from the group including paper media, archive documents, and scanned image data.

27. (original) The system of claim 26 wherein the merger unit joins the plurality of print jobs into a single joined print job by converting each print job into a raster format file which is specific to the imaging device's rendering engine, and merging the raster format files into a single RIP.